2009 Rain Garden Project

Silver Spring, Md.

Mid-point Evaluation

Submitted by

Friends of Sligo Creek and the Audubon Naturalist Society

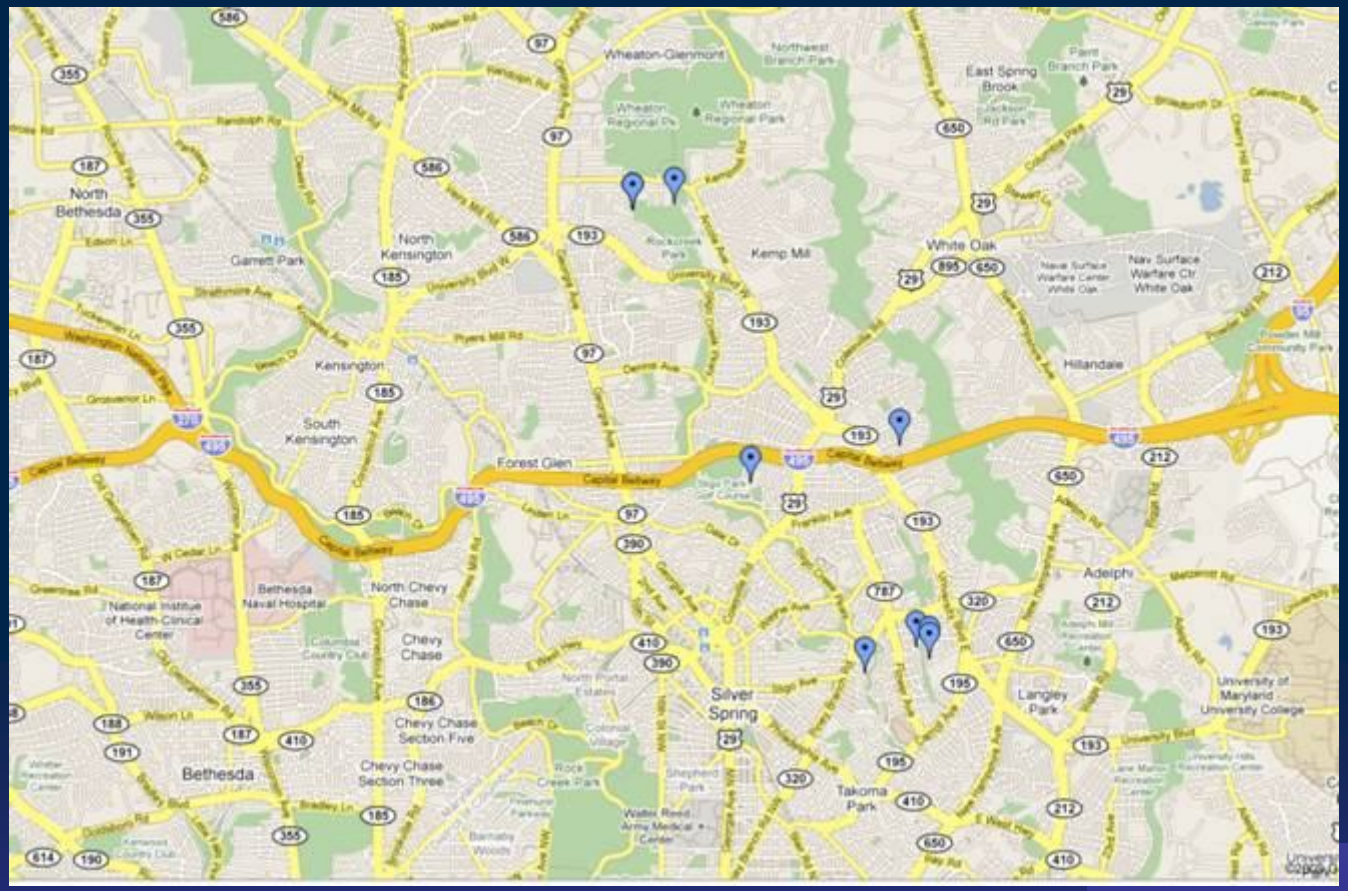
Special thanks to Montgomery County's Department of Environmental Protection for their support of this project.

Thanks also to the Chesapeake Bay Trust and the Takoma Foundation.

Rain Garden Project Timeline:

- Neighborhood Meetings
- Walk Throughs
- Rain Garden Sites Selected and Prepared
- Site Specific Rain Garden Design Elements
- The Digs
- Post Dig - Planting and Other Maintenance
- Lessons Learned

Eleven Sites Selected



Walk-through to evaluate site

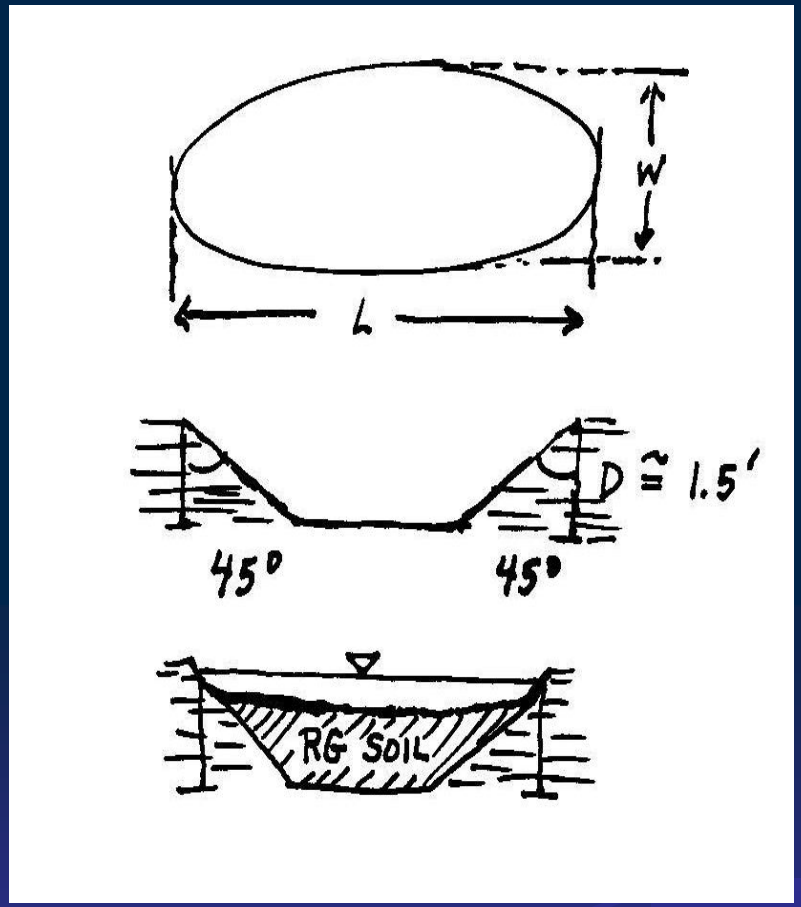
Perc Test

Marking the Site

The Digs

Roots & Soil Dispersal

Design Elements



- Most residential gardens are oval shape, elipsoid
- Standard RG: 45 degree sides; trapezoidal cross section
- RG must be concave, (saucer-shaped) to retain water during and after rainstorms

Other Design Considerations

- Yard Placement & drainage pathways
  - Need to carefully consider where overflow drainage will go
- Contributing Drainage Area
  - Better detail on drainage area maps to the project site
- Sizing & storage volume
- Soil Quantity and Handling
- Finished Elevation
- Berms
- Overflow techniques
- Plants & mulch

Design Elements

Teams Add Rain Garden Soil Mix

Planting

Finished Gardens

Challenges and Lessons Learned

Site Specific Challenges

Site with prior basement flooding

Hard Clay Soil - Garden Expanded

Excavated Soil: Where to Put it?

Rain Came before Plants and Mulch

Plants Not Planted, No Mulch, Berm Gone… Very hi-intensity storms at inopportune time

Some Homeowners did not Plant in a Timely Fashion

Lessons Learned

Recommendations

Overall Project Elements

Lessons Learned

1. Rain gardens worked eventually & were well received
2. Meetings and walk throughs effective
3. 4 -5 non RG solutions per RG
4. Identified public land retrofit priorities
5. Certain sites too complex for RG

Recommendations

1. Continue stormwater project
2. Continue education mitigation recommendations
3. Step up non-RG implementation
4. Identify mechanisms for increased public partnership
5. Recognize limits of this project

Overall Project Elements

Lessons Learned (contd.)

6. All drainage information is helpful
7. CASA worker experience positive
8. Keep RG concave
9. Delay in planting caused havoc

Recommendations (contd.)

6. DEP to provide drainage maps
7. Homeowners should pay CASA workers with FOSC coordinating
8. Improve homeowner education
9. Deliver plants at time of dig;

Rain Garden Design Elements

Lessons Learned

1. RG placements appropriate
2. Better assess drainage
3. RG storage working well
4. Too much RG soil
5. Too much excavated soil, insufficient dispersal area

Recommendations

1. Document placement process
2. DEP drainage maps & advice
3. No change needed
4. Order less RG soil,work with DEP on the issue; re-design excavation profile and account for soil settling
5. Consider soil excavation in the site selection process

Rain Garden Design Elements

Lessons Learned (contd.)

6. Concavity & sloped sides important elements
7. Berms work best with plants in place.
8. Overflow: plan for flooding
9. Plant delivery delay problem
10. Homeowners neglect mulching

Recommendations (contd.)

6. Better education & do not overfill the RG
7. Plant at time of RG dig
8. Notch berms or install appropriate overflow mechanisms
9. Deliver plants at time of dig; identify stockpile locations for advance storage
10. Mulch on site at time of dig

Thanks DEP!

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